STATE OF UTAH  DEPARTMENT OF NATURAL RESOURCES  DIVISION OF OIL, GAS AND MINING								AMENDED RE	FORM 3			
APPLICATION FOR PERMIT TO DRILL								1. WELL NAME and NUMBER  Lost Love 3-12				
2. TYPE OF WORK							3. FIELD OR WILDCAT					
DRILL NEW WELL 📵 REENTER P&A WELL 🔵 DEEPEN WELL 🔵									LOVE			
4. TYPE OF	WELL	Gas V	Vell Coa	lbed Methane Well:	NO			5. UNIT or COMMUNI	TIZATION AGRE	EMENT N	AME	
6. NAME OF	OPERATOR		EOG RESC	URCES, INC.				7. OPERATOR PHONE 435 781-9111				
8. ADDRESS OF OPERATOR  600 17th Street Ste 1000N, Denver, CO, 80202								9. OPERATOR E-MAIL kaylene_gardner@eogresources.com				
	L LEASE NUMBER			11. MINERAL OV		<u> </u>	12. SURFACE OWNERSHIP					
	U		20')	FEDERAL (III)	INDIAN	) STATE(	) FEE (	FEDERAL INI		12 = 'foo'	FEE ()	
		<u> </u>							`			
15. ADDRE	SS OF SURFACE	OWNER (if box 12	= 'fee')					16. SURFACE OWNER	R E-MAIL (if box	12 = 'fee'	")	
17. INDIAN (if box 12 :	ALLOTTEE OR TF	RIBE NAME			18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS				19. SLANT			
(	,			YES (Submit Commingling Application) NO				VERTICAL DIRECTIONAL HORIZONTAL				
20. LOCA1	TION OF WELL FOOTAGES Q		QTR-QTR	SECTION	TOWNSHIP	RANGE		MERIDIAN				
LOCATION	I AT SURFACE		660 F	FNL 1980 FEL		NWNE	12	11.0 S	21.0 E		S	
Top of Up	Depermost Producing Zone 660 FNL 1980 FEL			NWNE	12	11.0 S	21.0 E		S			
At Total D	At Total Depth 660 FN		NL 1980 FEL	980 FEL NWNE		12	11.0 S	21.0 E		S		
21. COUNT		INTAH		22. DISTANCE TO NEAREST LEASE LINE (Feet) 660			23. NUMBER OF ACRES IN DRILLING UNIT 2499					
				25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed) 2600			<b>26. PROPOSED DEPTH</b> MD: 8910 TVD: 8910					
27. ELEVA	TION - GROUND L	EVEL		28. BOND NUMBER			29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE					
5576				NM2308 49-225  Hole, Casing, and Cement Information								
						d Cement Info	ormation  Max Mud \	Vt. Cement	Sacks	Yield	Weight	
String Surf	12.25	Casing Size 9.625	0 - 230	-		-55 ST&C	0.0	Class G	185	3.82	11.0	
								Class G	207	1.18	15.6	
Prod	7.875	4.5	0 - 891	0 11.6	N-	-80 LT&C	10.5	Hi Lift "G		3.91	11.0	
								50/50 Poz 955 1.28 14.1				
ATTACHMENTS												
VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES												
<b>W</b> E	LL PLAT OR MAP I	PREPARED BY LICE	ENSED SURVEY	EYOR OR ENGINEER COMPLETE DRILLING PLAN								
AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMEN				NT (IF FEE SURFACE) FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER								
DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY					RILLED)	TOPOGRAPHICAL MAP						
NAME Mickenzie Larsen TITLE F				Regulatory Administrator PHONE 435			5 781-9145					
SIGNATURE DATE 1				12/11/2015 <b>EMAIL</b> micket			kenzie_larsen@eogresources.com					
API NUMBER ASSIGNED APPRO 43047555040000				PROVAL								
				Permit Manager								

# LOST LOVE 3-12 NW/NE, SEC. 12, T11S, R21E, S.L.B.&M.. UINTAH COUNTY, UTAH

#### 1. & 2. ESTIMATED TOPS & ANTICIPATED OIL, GAS, & WATER ZONES:

FORMATION	TVD-RKB (ft)	Objective	Lithology	
Green River	837		Shale	
Birdsnest	1,065		Dolomite	
Mahogany Oil Shale Bed	1,591		Shale	
Wasatch	3,948	Primary	Sandstone	Gas
Chapita Wells	4,532	Primary	Sandstone	Gas
Buck Canyon	5,213	Primary	Sandstone	Gas
North Horn	5,923	Primary	Sandstone	Gas
KMV Price River	6,576	Primary	Sandstone	Gas
KMV Price River Middle	7,412	Primary	Sandstone	Gas
KMV Price River Lower	8,161	Primary	Sandstone	Gas
Sego	8,680		Sandstone	
TD	8,910			

Estimated TD: 8,910' or 200'± below TD Anticipated BHP: 4,865 Psig

- 1. Fresh Waters may exist in the upper, approximately 1,000 ft  $\pm$  of the Green River Formation, with top at about 2,000 ft  $\pm$ .
- 2. Cement isolation is installed to surface of the well isolating all zones by cement.

#### 3. PRESSURE CONTROL EQUIPMENT:

Production Hole – 5000 Psig BOP schematic diagrams attached.

#### 4. CASING PROGRAM:

CASING	Hole Size	<u>Length</u>	<u>Size</u>	WEIGHT	Grade	Thread	Rating Collapse	Factor Burst	<b>Tensile</b>
Conductor	20"	0 – 60'	14"	32.5#	A252			1800 PSI	10,000#
Surface	12 1/4"	0 – 2,300' KB±	9-5/8"	36.0#	J-55	STC	2020 PSI	3520 Psi	394,000#
Production	7-7/8"	Surface - TD	4-1/2"	11.6#	P-110	LTC	<b>7560 PSI</b>	10,690 Psi	279,000#

Note:  $12-\frac{1}{4}$ " surface hole will be drilled to a total depth of 200'± below the base of the Green River lost circulation zone and cased w/9-\(^5\)\(^8\)" as shown to that depth. Drilled depth may be shallower or deeper than the 2300' shown above depending on the actual depth of the loss zone.

All casing will be new or inspected.

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# LOST LOVE 3-12 NW/NE, SEC. 12, T11S, R21E, S.L.B.&M.. UINTAH COUNTY, UTAH

### 5. Float Equipment:

#### Surface Hole Procedure (0'- 2300'±)

Guide Shoe

Insert Float Collar (PDC drillable)

Centralizers: 1-5' above shoe, top of jts. #2 and #3 then every 5<sup>th</sup> joint to surface. (15 total)

## <u>Production Hole Procedure (2300'± - TD):</u>

Float shoe, 1 joint casing, float collar and balance of casing to surface. 4-½", 11.6#, N-80 or equivalent marker collars or short casing joints to be placed at top of Price River and 400' above top of Wasatch. Centralizers to be placed 5' above shoe on joint #1, top of joint #2, and every 2nd joint to 400' above Wasatch Island top. Thread lock float shoe, top and bottom of float collar, and top of 2<sup>nd</sup> joint.

#### 6. MUD PROGRAM

#### Surface Hole Procedure (Surface - 2300'±):

Air/air mist or aerated water.

#### **Production Hole Procedure (2300'± - TD):**

Anticipated mud weight  $9.5-10.5~\mathrm{ppg}$  depending on actual wellbore conditions encountered while drilling.

2300'± - TD A closed mud system will be utilized. A bentonite gelled water mud system will be used to control viscosity w/PHPA polymer used for supplemental viscosity and clay encapsulation/inhibition. Water loss will be maintained at <15cc's using white starch or PAC. Bactericides will be used as needed. Anticipated pH will range from 9.0-10.0. Mud weight will be adjusted as necessary for well control. Deflocculants/thinners will be used as necessary to maintain mud quality. LCM sweeps will be utilized as necessary to control lost circulation and mud loss. CO2 contamination, if encountered, will be treated with lime and gypsum.

8 point plan-EOG 2 6/8/2009

# NW/NE, SEC. 12, T11S, R21E, S.L.B.&M.. UINTAH COUNTY, UTAH

#### 7. VARIANCE REQUESTS:

Reference: Onshore Oil and Gas Order No. 1
Onshore Oil and Gas Order No. 2 – Section E: Special Drilling Operations

- EOG Resources, Inc. requests a variance to regulations requiring a straight run blooie line to be 100' in length. (Where possible, a straight run blooie line will be used).
- EOG Resources, Inc. requests a variance to regulations requiring the blooie line to be 100' in length. To reduce location excavation, the blooie line will be approximately 75' in length.
- EOG Resources, Inc. requests a variance to regulations, during air drilling operations only, requiring dedusting equipment. Dust during air drilling operations is controlled by water mist.
- EOG Resources, Inc. requests a variance to regulations, during air drilling operations only, requiring an automatic igniter or continuous pilot light on the blooie line. (Not required on aerated water system).
- EOG Resources, Inc. requests a variance that compressors are located in the opposite direction from the blooie line a minimum of 100 feet from the well bore. (Air Compressors are rig mounted).

#### 8. EVALUATION PROGRAM:

**Logs:** Mud log from base of surface casing to TD.

Cased-hole Logs: Cased-hole logs will be run in lieu of open-hole logs consisting of the following:

**Cement Bond / Casing Collar Locator and Pulsed Neutron** 

RECEIVED: November 23, 2015

# <u>LOST LOVE 3-12</u> <u>NW/NE, SEC. 12, T11S, R21E, S.L.B.&M..</u> UINTAH COUNTY. UTAH

#### 9. CEMENT PROGRAM:

#### Surface Hole Procedure (Surface - 2300'±):

**Lead:** 185 sks Class "G" cement with 16% Gel, 10 #/sx Gilsonite, 3% Salt, 2% CaCl<sub>2</sub>,

3 lb/sx GR3 ¼ #/sx Flocele mixed at 11 ppg, 3.82 ft<sup>3</sup>/sk. yield, 23 gps water.

Tail: 207 sks Class "G" cement with 2% CaCl<sub>2</sub>, ¼#/sk Flocele mixed at 15.6 ppg, 1.18 ft<sup>3</sup>/sk.,

5.2 gps water.

**Top Out:** As necessary with Class "G" cement with 2% CaCl<sub>2</sub>, ¼#/sk Flocele mixed at 15.6

ppg, 1.18 ft<sup>3</sup>/sk., 5.2 gps water.

**Note**: Cement volumes will be calculated to bring lead cement to surface and tail

cement to 500'above the casing shoe.

#### Production Hole Procedure (2300'± - TD)

**Lead:** 90 sks: Hi-Lift "G" w/12% D20 (Bentonite), 1% D79 (Extender), 5% D44

(Salt), 0.2% D46 (Antifoam), 0.25% D112 (Fluid Loss Additive), 0.25 pps D29

(cello flakes) mixed at 11.0 ppg, 3.91 ft<sup>3</sup>/sk., 24.5 gps water.

**Tail:** 955 sks: 50:50 Poz "G" w/ 2% D20 (Bentonite), 0.1% D46 (Antifoam), 0.075%

D13 (Retarder), 0.2% D167 (Fluid Loss Additive), 0.2% D65 (Dispersant),

mixed at 14.1 ppg, 1.28 ft<sup>3</sup>/sk., 5.9gps water.

**Note**: The above number of sacks is based on gauge-hole calculation.

Lead volume to be calculated to bring cement to 200'± above 9-5/8" casing shoe. Tail volume to be calculated to bring cement to 400'± above top of Wasatch.

Final Cement volumes will be based upon gauge-hole plus 45% excess.

# NW/NE, SEC. 12, T11S, R21E, S.L.B.&M.. UINTAH COUNTY, UTAH

#### 10. ABNORMAL CONDITIONS:

#### Surface Hole (Surface - 2300'±):

Lost circulation

#### Production Hole (2300'± - TD):

Sloughing shales, lost circulation and key seat development are possible in the Wasatch Formation.

#### 11. STANDARD REQUIRED EQUIPMENT:

- A. Choke Manifold
- B. Upper and Lower Kelly Cock
- C. Stabbing Valve
- D. Visual Mud Monitoring

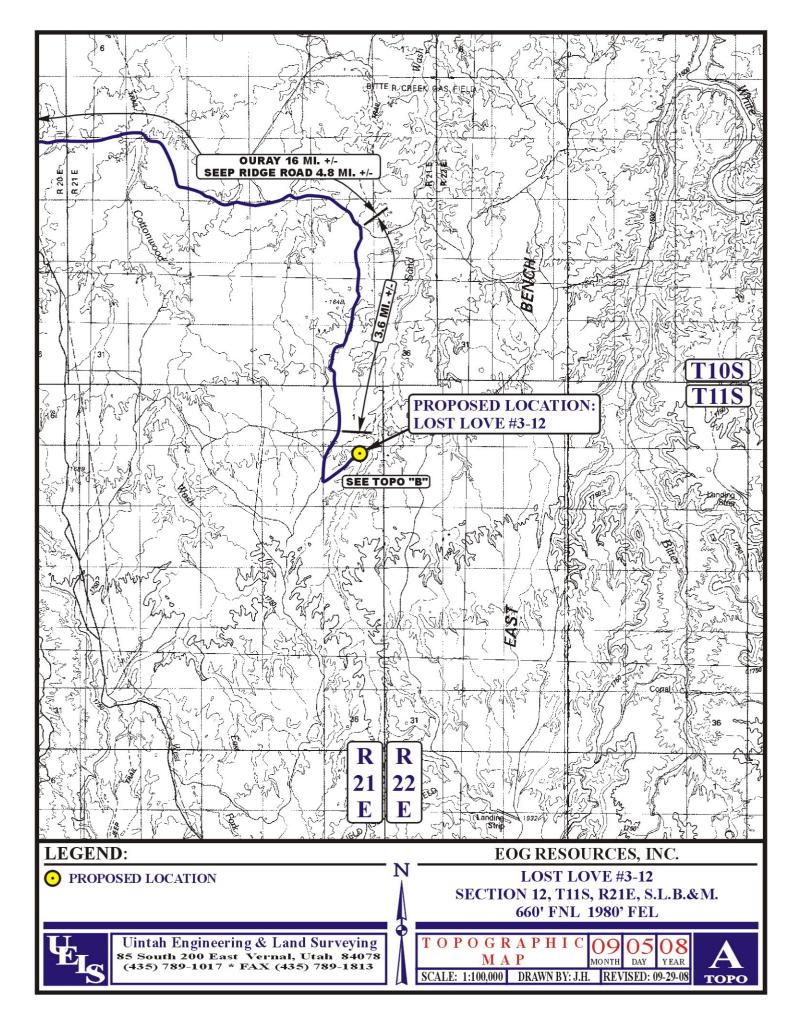
#### 12. HAZARDOUS CHEMICALS:

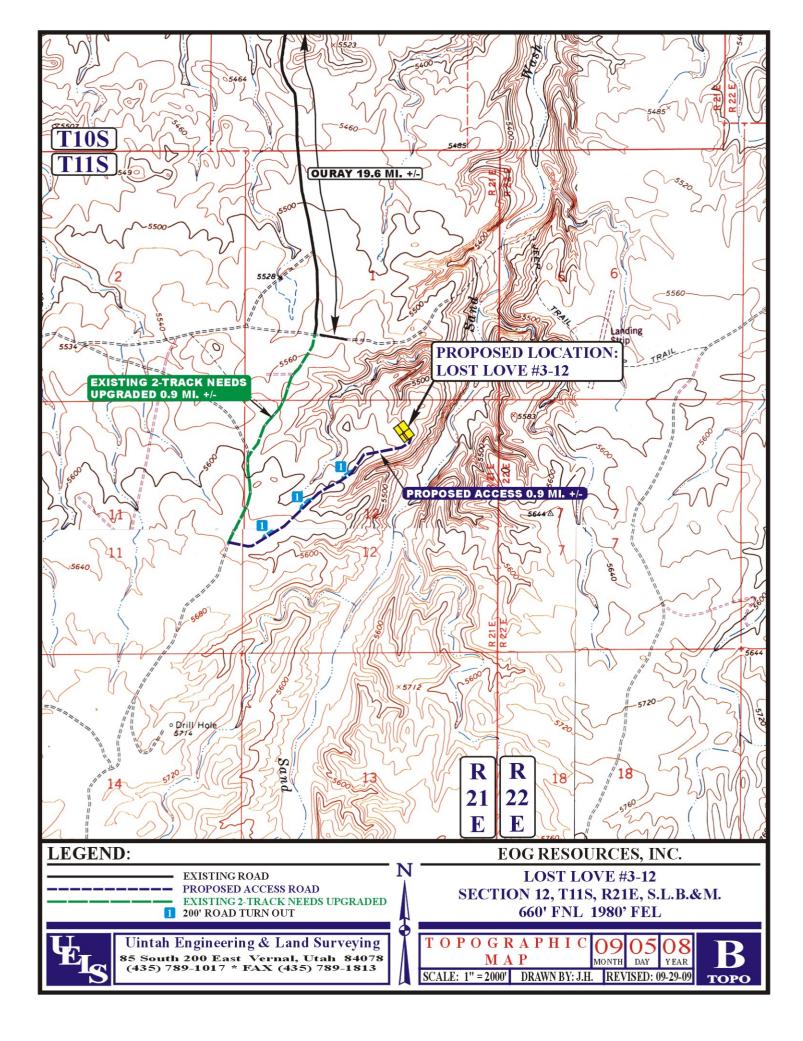
No chemicals subject to reporting under SARA title III in an amount equal to or greater than 10,000 pounds will be used, produced, stored, transported, or disposed of annually in association with the drilling of this well. Furthermore, no extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, will be used, produced, stored, transported, or disposed of in association with the drilling of this well.

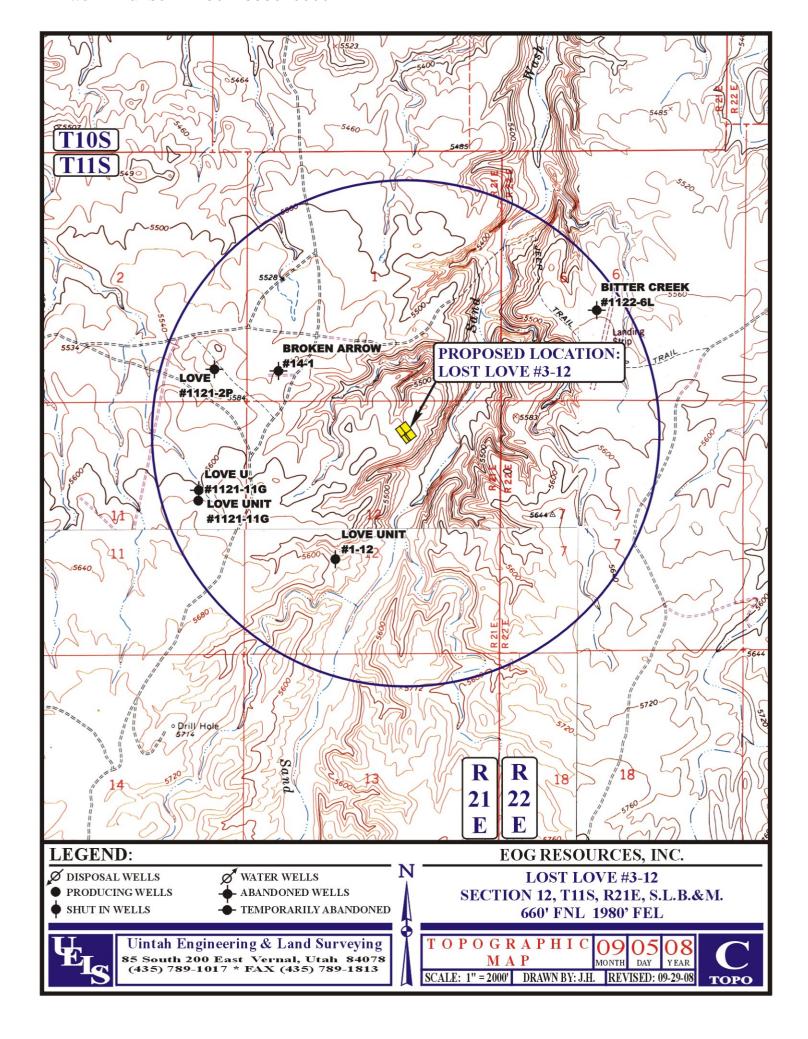
## 13. Air Drilling Operations:

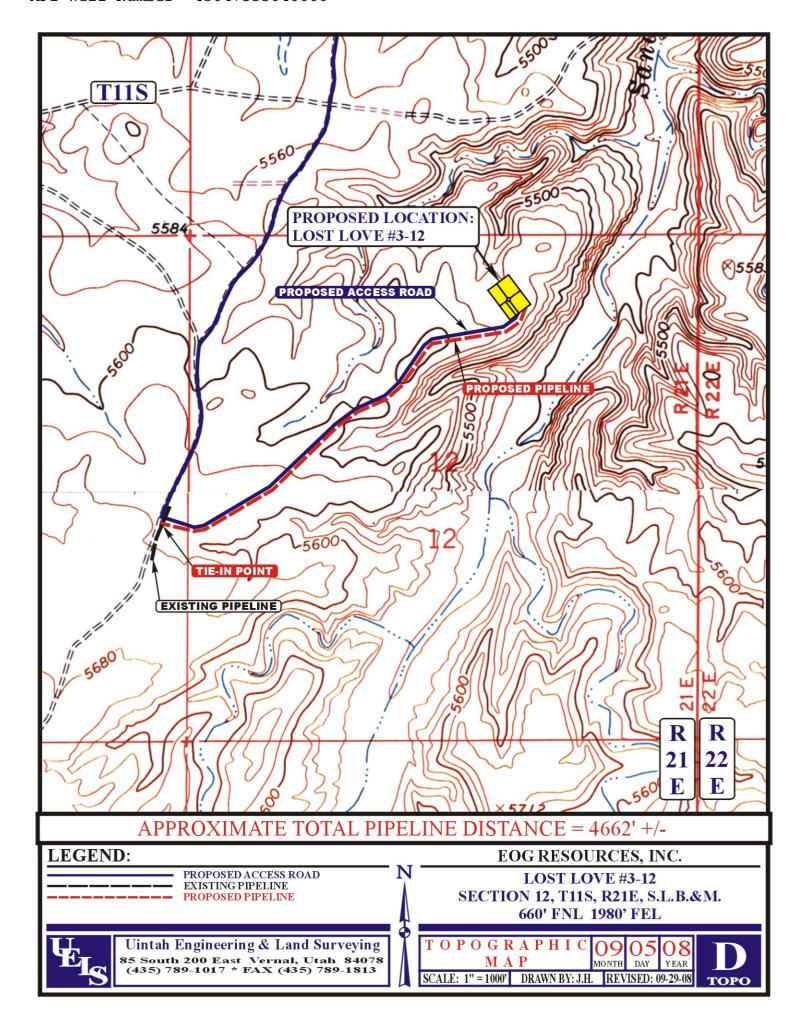
- 1. Main Air Compressors are 1250 CFM 350 psi with 2000 psi Boosters and are rig mounted.
- 2. Secondary Air Compressors are 1170 CFM 350 psi with 2000 psi Boosters and are rig mounted.
- Minimum setting depth of conductor casing will be 60' GL or 10'± into competent formation, whichever is deeper, as determined by the EOG person in charge. Exceptions must be approved by an EOG drilling superintendent or manager.
- 4. The diameter of the diverter flow line will be a minimum of 10" to help reduce back pressure on the well bore during uncontrolled flow.
- 5. Rat and Mouse hole drilling will occur only after surface casing has been set and cemented.
- 6. EOG Resources, Inc. will use a properly maintained and lubricated stripper head.

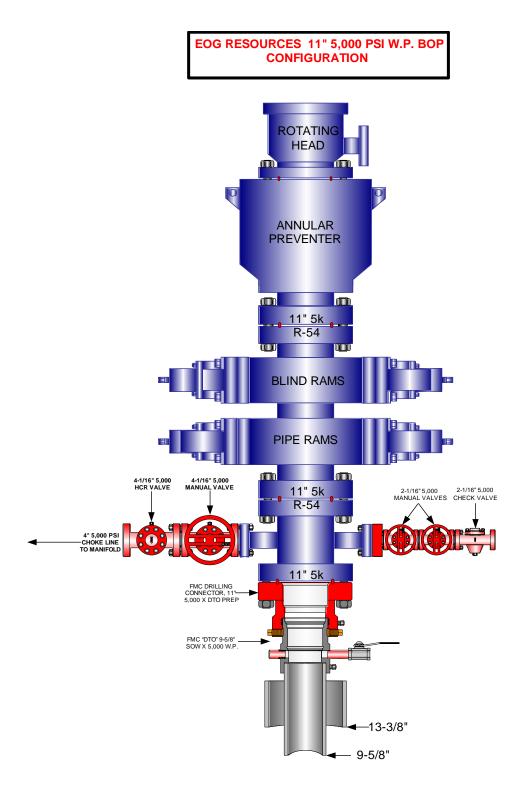
(Attachment: BOP Schematic Diagram)







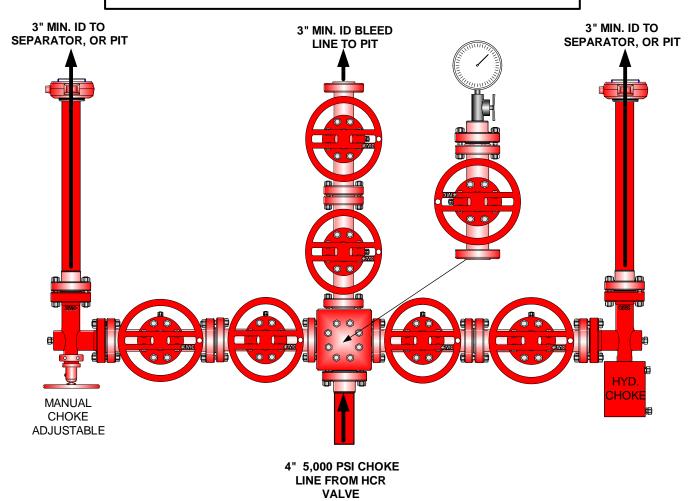




PAGE 1 OF 2

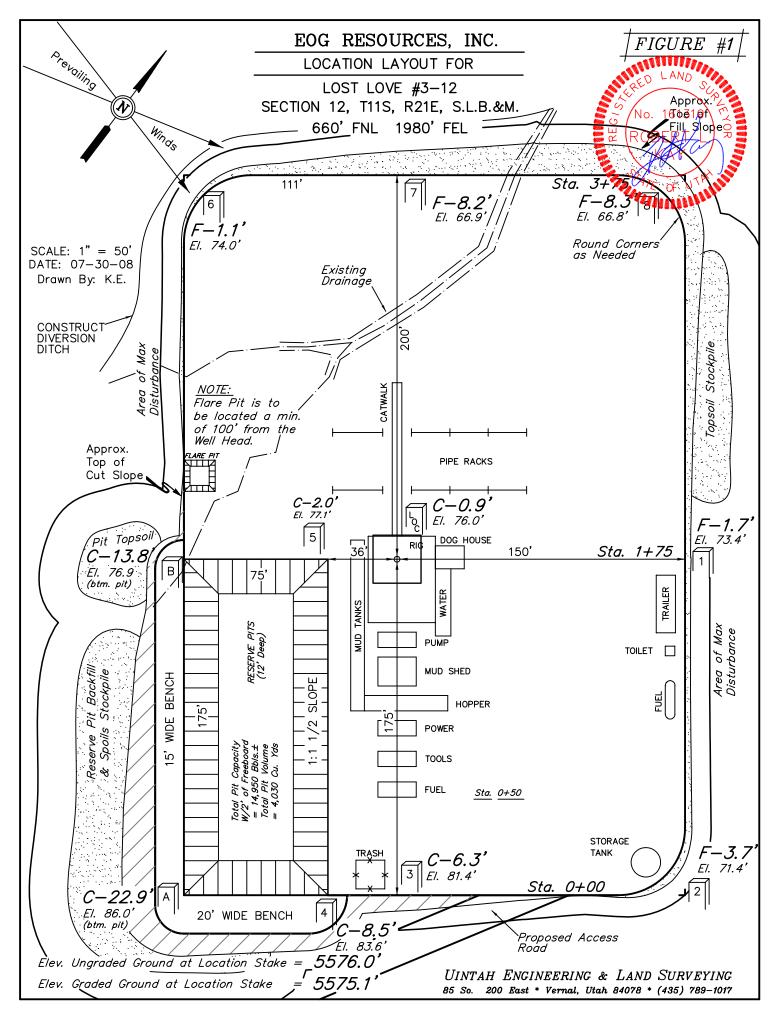
# EOG RESOURCES CHOKE MANIFOLD CONFIGURATION W/ 5,000 PSI WP VALVES

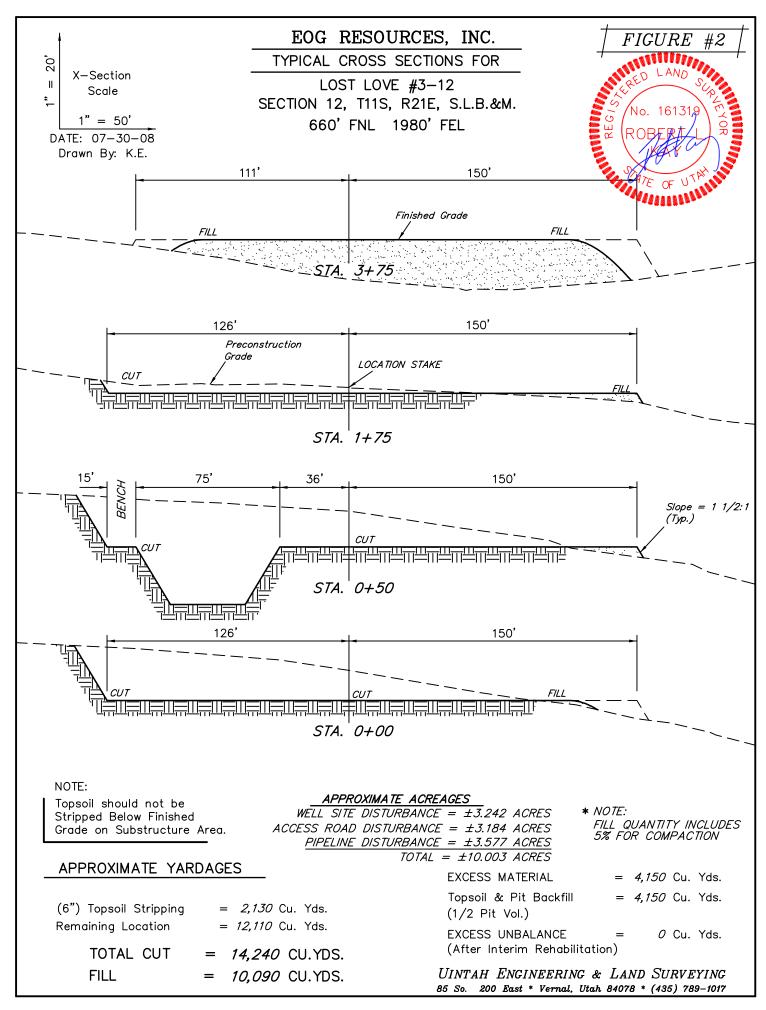
**PAGE 2 0F 2** 

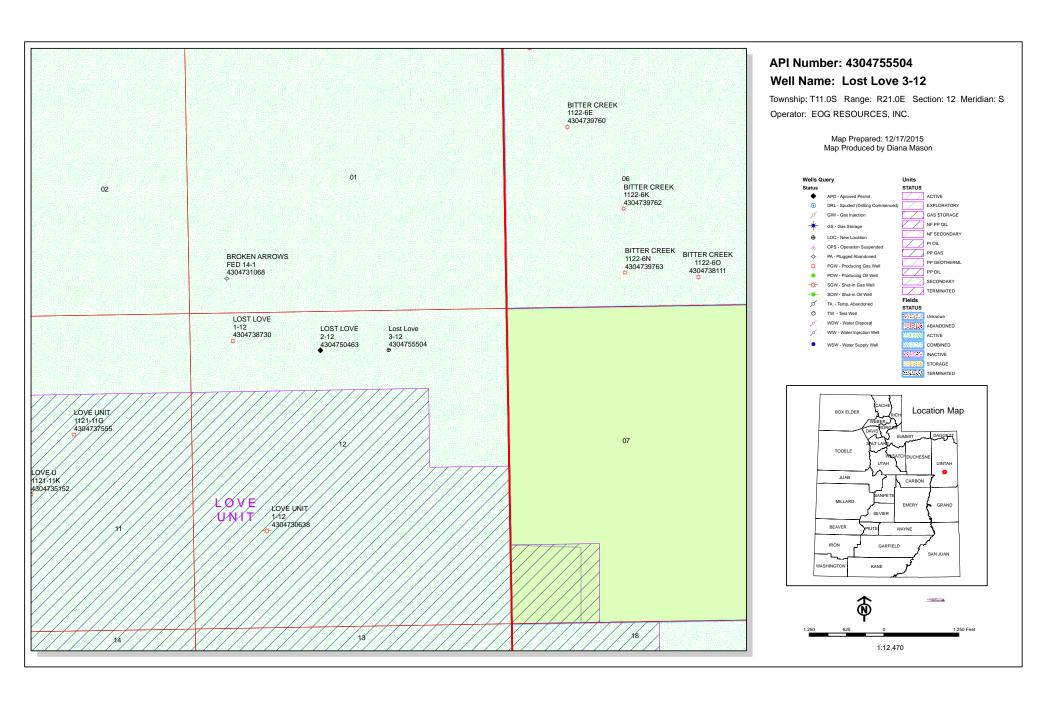


#### **Testing Procedure:**

- 1. BOP will be tested with a professional tester to conform to Onshore Order #2.
- 2. Blind and Pipe rams will be tested to rated working pressure, 5,000 psi.
- 3. Annular Preventer will be tested to 50% working pressure, 2,500 psi. Casing will be tested to 0.22 psi / ft. or 1,500 psi. Not to exceed 70% of burst strength, whichever is greater.
- 4. All lines subject to well pressure will be tested to the same pressure as blind and pipe rams.
- 5. All BOPE specifications and configurations will meet Onshore Order #2 requirements.







API Well Number: 43047555040000

# WORKSHEET APPLICATION FOR PERMIT TO DRILL

**APD RECEIVED:** 12/11/2015 **API NO. ASSIGNED:** 43047555040000

WELL NAME: Lost Love 3-12

OPERATOR: EOG RESOURCES, INC. (N9550) PHONE NUMBER: 435 781-9145

**CONTACT:** Mickenzie Larsen

PROPOSED LOCATION: NWNE 12 110S 210E Permit Tech Review:

SURFACE: 0660 FNL 1980 FEL Engineering Review:

BOTTOM: 0660 FNL 1980 FEL Geology Review: 

✓

COUNTY: UINTAH

LATITUDE: 39.88055 LONGITUDE: -109.51357
SURF EASTINGS: 627105.00 NORTHINGS: 4415556.00

UTM SURF EASTINGS: 627105.00

FIELD NAME: LOVE
LEASE TYPE: 1 - Federal

**LEASE NUMBER:** UTU8348 **PROPOSED PRODUCING FORMATION(S):** MESA VERDE

**Drilling Unit** 

SURFACE OWNER: 1 - Federal COALBED METHANE: NO

RECEIVED AND/OR REVIEWED: LOCATION AND SITING:

**▶** PLAT R649-2-3.

**▶ Bond:** FEDERAL - NM2308 **Unit:** 

Potash R649-3-2. General

Oil Shale 190-3 R649-3-3. Exception

\_ ... chart to a chart to a chart to a

Water Permit: 49-225 Board Cause No: Cause 210-05

-

RDCC Review: Effective Date: 10/5/2009

Fee Surface Agreement Siting: 460' Fr Exterior Drilling Unit Boundary

Intent to Commingle R649-3-11. Directional Drill

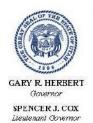
Commingling Approved

Oil Shale 190-5

Oil Shale 190-13

Comments: Presite Completed

Stipulations: 4 - Federal Approval - dmason



# State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

# Permit To Drill

\*\*\*\*\*

**Well Name:** Lost Love 3-12 **API Well Number:** 43047555040000

Lease Number: UTU8348 Surface Owner: FEDERAL Approval Date: 1/4/2016

#### **Issued to:**

EOG RESOURCES, INC., 600 17th Street Ste 1000N, Denver, CO 80202

#### Authority:

Pursuant to Utah Code Ann. 40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 210-05. The expected producing formation or pool is the MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

#### **Duration:**

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

#### General:

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

#### **Conditions of Approval:**

State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

#### **Notification Requirements:**

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

• Within 24 hours following the spudding of the well - contact Alexis Huefner at 801-538-5302

(please leave a voicemail message if not available)

OR

submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website

at http://oilgas.ogm.utah.gov

#### Reporting Requirements:

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) due within 5 days of spudding the well
- Monthly Status Report (Form 9) due by 5th day of the following calendar month
  - Requests to Change Plans (Form 9) due prior to implementation
  - Written Notice of Emergency Changes (Form 9) due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) due prior to implementation
  - Report of Water Encountered (Form 7) due within 30 days after completion
- Well Completion Report (Form 8) due within 30 days after completion or plugging

Approved By:

For John Rogers Associate Director, Oil & Gas Sundry Number: 77186 API Well Number: 43047555040000

	STATE OF UTAH		FORM 9			
ı	DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	3	5.LEASE DESIGNATION AND SERIAL NUMBER: UTU8348			
SUNDR	Y NOTICES AND REPORTS ON	WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:			
	posals to drill new wells, significantly deep reenter plugged wells, or to drill horizontal n for such proposals.		7.UNIT or CA AGREEMENT NAME:			
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: Lost Love 3-12			
2. NAME OF OPERATOR: EOG RESOURCES, INC.			9. API NUMBER: 43047555040000			
3. ADDRESS OF OPERATOR: 600 17th Street Ste 1000N		<b>DNE NUMBER:</b> 781-9111 Ext	9. FIELD and POOL or WILDCAT: LOVE			
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0660 FNL 1980 FEL			COUNTY: UINTAH			
QTR/QTR, SECTION, TOWNSH	HP, RANGE, MERIDIAN: 12 Township: 11.0S Range: 21.0E Meridian:	S	STATE: UTAH			
11. CHECI	K APPROPRIATE BOXES TO INDICATE N	ATURE OF NOTICE, REPOR	RT, OR OTHER DATA			
TYPE OF SUBMISSION		TYPE OF ACTION				
	ACIDIZE	ALTER CASING	CASING REPAIR			
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME			
1/4/2017	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE			
SUBSEQUENT REPORT	DEEPEN	FRACTURE TREAT	NEW CONSTRUCTION			
Date of Work Completion:	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK			
	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION			
SPUD REPORT Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON			
	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL			
DRILLING REPORT	☐ WATER SHUTOFF ☐ :	SI TA STATUS EXTENSION	✓ APD EXTENSION			
Report Date:	WILDCAT WELL DETERMINATION	OTHER	OTHER:			
12 DESCRIBE PROPOSED OR	COMPLETED OPERATIONS. Clearly show all pe	rtinent details including dates d	lenths volumes etc			
	nc. respectfully requests the API		Approved by the			
	well be extended for one year.		Wamubiyi9i4,n20117 Oil, Gas and Mining			
			_			
			Date:			
			By: Dally			
			2			
NAME (PLEASE PRINT) Wes Paine	PHONE NUMBER 303-262-9886	TITLE Regulatory Specialist				
SIGNATURE	232 232 3300	DATE				
N/A		1/4/2017				

Sundry Number: 77186 API Well Number: 43047555040000



#### The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

**Electronic Permitting System - Sundry Notices** 

#### Request for Permit Extension Validation Well Number 43047555040000

API: 43047555040000 Well Name: Lost Love 3-12

Location: 0660 FNL 1980 FEL QTR NWNE SEC 12 TWNP 110S RNG 210E MER S

Company Permit Issued to: EOG RESOURCES, INC.

Date Original Permit Issued: 1/4/2016

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

• If located on private land, has the ownership changed, if so, has the surface agreement been updated?  Yes  No
<ul> <li>Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location?</li> <li>Yes</li> <li>No</li> </ul>
• Has there been any unit or other agreements put in place that could affect the permitting or operation of thi proposed well?  Yes No
• Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location? ( Yes ( No
• Has the approved source of water for drilling changed?   Yes  No
• Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation?   Yes  No
• Is bonding still in place, which covers this proposed well?   Yes   No
nature: Wes Paine Date: 1/4/2017

Sig

Title: Regulatory Specialist Representing: EOG RESOURCES, INC.